

EFH:JHMc  
V-1

U. S. DEPARTMENT OF COMMERCE  
NATIONAL BUREAU OF STANDARDS

Letter  
Circular  
LC820

WASHINGTON

(Supersedes  
LC798)

April 2, 1946

PLASTIC PAINT

The Bureau receives numerous requests from the public for information on plastic paint. These requests have increased in recent years because of the appearance on the market of a group of coatings described as "plastic paints" and which are generally offered at high prices.

A type of paint known as plastic or texture paint, for decorating interior walls, has been on the market for at least twenty-five years. This is a heavy-bodied paint that can be applied with a brush, trowel, or sponge. Variations in texture to obtain such effects as caenstone, travertine, etc., are obtained by troweling, stippling, brushing, knifing and wiping. The paint can be obtained as an oil-base or a water-base material. The oil-base paint may be composed of white Portland cement, sand, lithopone and asbestos ground in linseed oil together with certain stabilizers. The water-base paint is generally a powder composed of casein, hydrated lime, mica, lithopone, clay, etc. It is mixed with water for use.

Likewise a type of paint sometimes designated as plastic paint, for waterproofing exterior masonry surfaces, has been available for at least twenty-five years. This type of coating has the consistency of thick paint. It generally consists of various pigments mixed with asbestos fiber, ground in a vehicle containing resins and tung oil. The paint is applied with a stiff brush and on average masonry surfaces the spreading rate is about fifty square feet to the gallon. This is many times the thickness of an ordinary paint coating. Thus the material fills any small hair line cracks, pores and voids in the masonry surface.

Recently another type of so-called "plastic paint" has appeared on the market. This paint is of the usual brushing consistency, and is offered under various brand names. It is sold for both indoor and outdoor use. Some of these paints are described as being "liquid plastics" - by inference apparently referring to the raw materials used in the manufacture of plastics.

(over)

Many of the raw materials used in the manufacture of plastics have long been known and used in the protective coating industry. Technically all paints may have certain plastic properties. However, there has been no official definition or specification prepared for the term "plastic paint". It would seem that a discontinuance of this term as applied to ordinary oil and oleoresinous paints (with the expectation of "cashing in" on the word "plastics") would be desirable.

The suggestion has been made that paint coatings formulated with a major portion of raw materials used in the plastics industry are properly entitled to the use of the word "plastics" to describe them. This suggestion has considerable merit. For example, the baked coating on the inside of metal beer cans is mainly a solution of vinyl resin. The baked coating on the outside of mechanical refrigerators is mainly a solution of melamine-urea formaldehyde and alkyd resins mixed with pigment. The modern luminous (phosphorescent) paint is mainly a solution of a synthetic resin such as acrylic resin or polystyrene resin and pigment. The baked coating on the inside of steel potable water tanks is frequently a solution of a heat convertible pure phenolic resin with or without pigment. The major portion of a clear nitrocellulose lacquer is a solution of nitrocellulose and a synthetic resin such as alkyd resin. All of these examples and many others of a similar nature could well be classed as plastics-base coatings.

In order to distinguish between the recent so-called "plastic paints", and coatings which really do contain a major portion of raw materials as defined and used in the plastics industry, the suggestion has been made that if the soluble solids of the coating in question contain more than 75 percent of one or more of the following raw materials it is entitled to the plastics classification: benzylcellulose, nitrocellulose, ethylcellulose, cellulose acetate, cellulose acetobutyrate, cellulose acetopropionate, urea-formaldehyde, melamine resin, alkyd resin, vinyl or vinylidene resin, polystyrene resin, acrylic acid resin, polyvinyl butyl resin, phenolic resin, allyl resin and chlorinated rubber. There may be other raw materials used in plastics that should be included, but the list is fairly representative.

While the Bureau has examined a number of so-called "plastic paints", it is regretted that it has no published information on various brands, nor does it test paints for private agencies.